

Epi Notes



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SMART RIOT Community Outreach

Prepared by Judy Owen-O'Dowd, Special Projects Coordinator and Evelyn Foust, Branch Head, HIV/STD Prevention and Care

Robeson County hosted a SMART RIOT Community Outreach (Syphilis Makes Awareness Robeson's Target for the Rapid Intervention Outreach Team) on the weekends of Aug. 17 and 24. Twelve teams of community partners from throughout North Carolina participated, including individuals from community-based organizations (CBOs), the N.C. Outreach Network, the Robeson County Health Department, other county health departments, and the HIV/STD Prevention and Care Branch.

Background

Robeson County (pop. 132,339) has been experiencing an increase in syphilis since 1996. By the year 2000, the infectious syphilis rate had more than doubled, from 23.3 cases per 100,000 population to 50.2 per 100,000, the highest rate of any high syphilis-morbidity area in the nation. During that time, the proportion of cases declined from 73.8% among African-Americans to 41.4% while increasing nearly three-fold among Native Americans, from 12.3 % to 36.1%. The majority of cases were reported in 20- to 29-year-olds (39.8%), followed by 30- to 39-year-olds (22.6%). Robeson County reported 133 cases of early syphilis in 2000, and in 2001 reported 124 early syphilis cases through November.

SMART RIOT Planning

The HIV/STD Prevention and Care Field Services Unit and the North Carolina Syphilis Elimination Project (NCSEP) have been working intensely with the Robeson County Health Department and community members to decrease syphilis and increase awareness. After two initial intensive weekend outreach events, the RIOT was scheduled to continue for at least six additional weeks with increased case-finding activities, increased syphilis screening, additional community outreach and education, and working to strengthen grassroots community organizations. After the initial stages of RIOT, the Branch, local health department and community planned to develop a long-range plan to further reduce syphilis and to continue working together toward syphilis elimination. The increased staffing levels and intervention are to

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Next Issue:

- Anthrax Activities in N.C.
- Governor's Bioterrorism Initiatives

continue until syphilis is significantly reduced in the community.

Weekend Outreaches

On August 16, branch head Evelyn Foust and local health director William “Bill” Smith held a press conference to announce the RIOT and inform the community about two weekend outreaches. On Aug. 17-18 and 24-25, SMART teams went door-to-door offering free testing, counseling and education in the county. Community awareness activities also included articles in local newspapers and public service announcements (PSAs) on local TV and radio stations. Flyers were distributed throughout the community by April Locklear, health educator for the Robeson County Syphilis Elimination Project, and the Branch’s Field Services’ staff. McDonald’s contributed food coupons for incentives for residents to take a syphilis test. Many local grocery stores contributed to the effort by donating refreshments for the RIOT outreach workers. The Red Springs Youth Opportunity Program assembled bags for the teams to distribute that contained condoms as well as STD/syphilis and risk reduction information. Goodie bags were also prepared and given to children at homes visited by team members.

SMART teams were divided into 12 groups consisting of four to five members each. The teams provided on-the-spot testing for syphilis and HIV and education about syphilis and its correlation to HIV. They also collected epidemiological data. The Robeson County Health Department extended clinic hours both Friday evenings during the RIOT. Two community members with symptoms of syphilis responded to the media messages and were treated at the evening clinic.

County health director Bill Smith said in a letter to Evelyn Foust dated Aug. 27, “It is hard for me to fathom how you can get over 100 people to give up weekends to do public health activities in a county not of their own.” He went on to say, “The effort and determination exhibited by the RIOT participants would make them eminently successful in any business world. These past two weeks have reinforced my belief that there is high quality and tenacity within the individuals in public health.”

Results

During the SMART RIOT, 728 individuals were screened for syphilis. Thirty-one positives were identified, for a 4% seropositive rate. Among the 31 positive individuals found, 15 (48%) were not previously diagnosed with syphilis and 16 had previous histories of syphilis.

Four hundred eighty-four individuals (66%) also agreed to be tested for HIV. Two tests were positive for HIV, one of which is a newly identified case.

During the two weekends, the SMART teams documented reaching 1,124 residents of Robeson County. Six hundred eleven encounters were with men and 476 were with women. Twenty-six per cent were in the 20- to 29-year age range, 24% were in the 30- to 44-age range, and 28% were in the 45+ age range. Over 900 bags containing promotional materials such as condoms and brochures were distributed.

The HIV/STD Prevention and Care Branch would like to thank all of the staff at the Robeson County Health Department, especially Bill Smith, Susan Sheats, April Locklear, Melissa Packer, Bobbie Martin and David Martin; the Robeson County Laboratory staff; the many community outreach workers; the Syphilis Eliminators; the Field Services Unit staff; the State Laboratory of Public Health - Virology/Serology Branch and the many other dedicated individuals whose assistance and dedication during the two weekend outreaches made this phase of Robeson County’s RIOT a success.

For additional information, please call Jan Scott at (919) 715-3688 or Rhonda Ashby at (919) 355-9084. ■

National Shortage of Tetanus/ Diphtheria Vaccine Prompts Change in State Requirements

Prepared by Beth Rowe-West, Head, Immunization Branch



In the May 25, 2001 issue of the *Morbidity and Mortality Weekly Report* (MMWR: 50(20);418,427), the Advisory Committee on Immunization Practices (ACIP) issued a statement recommending the deferral of all routine Tetanus/Diphtheria (Td) boosters for adolescents and adults until 2002 due to the Td shortage. In response to this advisory, the North Carolina Commission for Health Services adopted a temporary rule suspending the requirement for **college and university** students to receive a booster dose of Td.

Effective July 17, 2001, college and university students are only required to have received three (3) doses of Td-containing vaccines. While booster doses may be deferred, the primary series (the three doses) of tetanus/diphtheria-containing vaccines remains a requirement for all students. Providers of immunizations should maintain a roster of all

students for whom Td vaccine is deferred. Upon notification that vaccine supplies have been restored and that North Carolina's temporary suspension is lifted, these students must update their Td immunization series with booster doses as a requirement for college and university attendance.

For the duration of the shortage and until further notice, the use of Td is permitted **only** for the following individuals:

- 1) persons without documentation of Td vaccination within the last 10 years that are travelling to a country where the risk for diphtheria is high (Note: **Based on surveillance data and consultation with the World Health Organization, countries at highest risk are: Africa = Algeria, Egypt and sub-Saharan Africa; Americas = Brazil, Dominican Republic, Ecuador and Haiti; Asia/Oceania = Afghanistan, Bangladesh, Cambodia, China, India, Indonesia, Iran, Iraq, Laos, Mongolia, Myanmar, Nepal, Pakistan, Philippines, Syria, Thailand, Turkey, Vietnam and Yemen; Europe = Albania and all countries of the former Soviet Union.**);
- 2) persons requiring tetanus vaccination for prophylaxis in wound management;
- 3) persons who have received less than 3 doses of any vaccine containing tetanus and diphtheria toxoids; or
- 4) pregnant women who have not been vaccinated with Td during the preceding 10 years.

Currently, there is **not** a shortage of DTaP or pediatric DT; therefore this rule change does not affect children under seven years of age. We will notify providers when Td vaccine availability improves and ACIP advises the resumption of normal operation for Td vaccine booster recommendations. This Td shortage is expected to last into 2002. Therefore, it is **critical** that we work together to maximize and conserve our supply. ■

Ten Years of North Carolina Injury-Related Mortality and Hospitalization Data to be Released in November

Prepared by Catherine P. Sanford, M.S.P.H., Epidemiologist
Injury and Violence Prevention Unit



The N.C. DHHS Injury and Violence Prevention Unit, in collaboration with the State Center for Health Statistics and the Injury Prevention Research Center at the University of North Carolina, are releasing three volumes of injury-related data in December:

- *Deaths from Injuries: A Data Book of Injury-Related Mortality Statistics. North Carolina, 1989-1998*
- *Deaths from Injuries: A Data Book of Injury-Related Mortality Statistics. Volume 1 (Alamance – Jackson) and Volume 2 (Johnston – Yancey), 1989-1998*
- *Hospitalizations from Injuries: A Data Book of Injury-Related Hospital Discharge Data. North Carolina, 1997-1999.*

These are comprehensive, population-based reports on deaths, hospitalizations and years of potential life lost caused by injuries. The reports use the external-cause-of injury codes (E-codes) that are recorded on death certificates of residents in the state of North Carolina or in the abstracts of the state's hospital discharge database. The E-codes (E800-E999) cover the complete range of injury codes and identify the mechanism (cause) by the manner (intent) of the injury, as recommended by the National Center for Injury Prevention and Control at the Centers for Disease Control and Prevention (CDC). Counts of events and age-adjusted or crude rates, as appropriate, are presented overall, by race/gender, and by age in most of the reports. Years of potential life lost are calculated using life expectancies from 1998 U.S. Life Tables.

Injuries are defined as the result of the transfer of physical energy (either mechanical, thermal, radiant, chemical or electrical) or the absence of heat or oxygen to the host in an amount which exceeds the threshold for tissue damage or for tissue viability when death occurs. The external causes of these injuries are described by the standardized coding system (E-codes) of the International Classification of Diseases (ICD) taxonomy developed by the World Health Organization. The intent of these causes of injury are further classified as either self- or other-inflicted (i.e., suicide or homicide vs. unintentional intent, undetermined intent, or legal intervention/acts of war).

In North Carolina, there were over 46,000 deaths due to all external causes of injury in the 10-year period from 1989 through 1998, an age-adjusted death rate of 65.6 per 100,000 population. The overall United States injury-related age-adjusted (to 1990) death rate was 57.8 per 100,000 population for the same time period (www.cdc.gov/ncipc/osp/data.htm, WISQARS). The North Carolina injury death rate for this ten-year period was significantly higher than that for the United States during the same period of time.

In this ten-year period in North Carolina, unintentional injuries and adverse effects were the 4th leading cause of death; suicide was the 8th leading cause of death, and

homicide and legal intervention were the 9th leading cause of death. Injuries were the leading cause of death for persons between the ages of 1 and 35.

The distribution of these injury-related deaths varied significantly by age. In most age groups, more deaths were attributable to unintentional injury than to homicide or suicide. The primary exception was for young adults between the ages of 15 and 34, where homicide was the 2nd most frequent cause of death.

In North Carolina, motor vehicle traffic injuries were the leading cause of injury-related deaths from 1989 through 1999, with an age-adjusted rate of 20.8 deaths per 100,000 population. Most of these deaths (68%) occurred to the occupants in the vehicle(s) involved in the crash.

Firearms were the 2nd leading cause of injury-related deaths in North Carolina during this 10-year period, with an age-adjusted rate of 17.1 deaths per 100,000 population. The intent for 4% of the firearm deaths was classified as unintentional (n=467); 52% as suicide; and 43% as homicide.

Poisonings were the 3rd leading cause of injury deaths (n=3,319) in North Carolina from 1989 through 1999, with an age-adjusted rate of 4.7 deaths per 100,000 population. The majority of these poisoning deaths (56%) were classified as unintentional; 39 % were classified as suicide.

Calculating the years of potential life lost due to cause(s) of death provides an estimate of the number of years of life lost because of premature death. Calculations using life expectancies from the 1998 U.S. national life tables² indicate that North Carolina lost the social and economic benefits of over 1.6 *million* years of life (n=1,689,657 years) from deaths due to all external causes of injury from 1989 through 1998. Because deaths due to injuries occur more often in the young, their effect on the years of potential life lost are more profound than the higher number of deaths due to the causes that traditionally affect the older segments of the population, such as cancer and heart disease. For example, in 1998, North Carolina lost over 100,000 years of potential life of its citizens due to unintentional injuries, suicide and homicide. That was two times the number of years of potential life lost in 1998 due to heart disease or cancer, the two leading causes of death in N.C.

There is little population-based data available on injury-related hospitalizations from 1997 through 1999 in North Carolina. This new data book on injury-related hospitalizations provides the state its first opportunity to

review the numbers and rates (at the state level) of injury-related hospitalizations for the state and each county overall and by each of 12 age groups in exactly the same format in which the mortality data are presented.

These injury-related data books will be distributed to every health department in the state and to many other agencies and organizations interested in the control and prevention of injuries. Copies can also be requested from the N.C. DHHS Injury and Violence Prevention Unit, (919) 715-6440.

¹ Centers for Disease Control and Prevention. Recommended framework for presenting injury mortality data. MMWR 1997; 46(No.RR14).

² Anderson RN. United States life tables, 1998. National Vital Statistics Reports; vol. 48 (18). Hyattsville, MD: National Center for Health Statistics, 2001.

³ Rivara FP, Cummings P, Koepsell TD, Grossman DC and Maier RV (editors). *Injury Control: A guide to research and program evaluation*. Cambridge University Press, Cambridge, UD, 2001. ■

Disaster Response Planning: National Pharmaceutical Stockpile

Prepared by Charles Reed, Pharmacist, Division of Public Health and Samara A. Adrian, Public Health Bioterrorism Planner



The Centers for Disease Control and Prevention (CDC) has awarded the Division of Public Health a \$30,000 supplemental grant to be used for the development, training and limited testing of a National Pharmaceutical Stockpile (NPS) plan and a mass patient inoculation and prophylaxis plan. This grant is in addition to the fourth-year renewal of a CDC bioterrorism preparedness and response planning grant to the Division.

The NPS is a reserve supply of critical medications and medical supplies that can be delivered, with the CDC's approval, to any state in cases of large-scale medical emergencies. The North Carolina Emergency Management's Information and Planning Section, the North Carolina Department of Health and Human Services, the North Carolina Public Health Bioterrorism Task Force, and the Special Operations Response Team have been working together to evaluate the issues surrounding the use of the NPS in North Carolina. Training and a limited-scale field exercise of those key individuals who would be involved in NPS activities will follow plan development. The training and field exercise will be provided by a private contractor.

The mass patient inoculation and prophylaxis plan will help prepare North Carolina for health care emergencies such as that recently faced in Ohio when that state's Department of Public Health had to provide over 30,000 people with preventive treatment due to a potential risk of meningitis. ■

The Progress Check System: A System for Monitoring Health Promotion Efforts of Local Health Departments

Prepared by Philip Bors, MPH, and Patricia Clow, RD, MPH, Evaluators, Division of Public Health



By providing funding and technical assistance, the Health Promotion Branch of the Division of Public Health supports local health departments in conducting community health promotion programs. In 1999, the Branch began urging local health departments to focus their health promotion efforts on the three major risk factors for cardiovascular diseases and cancer: poor nutrition, physical inactivity and tobacco use. This focus emphasizes the importance of policy and environmental strategies to create opportunities for North Carolinians to engage in physical activity, heart-healthy nutrition behaviors, and tobacco avoidance.

In 2001, the Branch developed a monitoring system called Progress Check, which is now being pilot-tested in selected counties. The Progress Check System is an evaluation tool that will enable state and local staff to better monitor local health promotion efforts in order to improve them. The system will also integrate the collection of data for two programs in the Health Promotion Branch that support efforts to make policy and environmental changes in North Carolina—Cardiovascular Health and Health Promotion.

What Progress Check Does

The Progress Check System is designed to...

- document stories and successes and facilitate the sharing of accomplishments and other information within the state and elsewhere;
- provide state health promotion staff with information to improve technical assistance;
- provide local health department staff and decision makers with information for program planning; and
- provide accountability information so that prevention efforts reflect the level of funding.

How It Works

The monitoring system functions at multiple levels – local, regional and state.

Local coordinators document their efforts to create more healthful environments. They report on:

- Planning, training and assessment activities that prepare staff to advocate for healthier environments;
- Actions to engage and influence outside agencies, such

as advocacy, regionalization efforts and capacity building (train-the-trainer); and

- Accomplishments such as a decision or change made by an organization or governing body.

Local staff use an event log to record information including the related program objectives, actions taken (what was done or what happened), funding source, the channel or setting of the action, and the outcome achieved for that event. The system minimizes the amount of text data entry by using fields with drop-down boxes, as well as allowing for narrative reporting. To allow for a more streamlined analysis process, each activity or outcome is assigned a code. When entries for a two-month period are completed, the local staff e-mail the data to the regional consultants.

The regional consultants and a team of state staff verify the accuracy of the codes applied to each activity or outcome being reported. The code review also gives an opportunity to provide technical support to local staff. Once logs are revised and finalized, the regional consultants forward the data to the Health Promotion Branch evaluation staff. At six-month intervals, the evaluation staff sends a summary of the event log data back to the local coordinators.

What Data Is Collected

Progress Check collects information on local staffs' activities and accomplishments. The system compiles these coded entries to summarize the following:

- **Process** – proportion of activities spent doing groundwork, partnering, and advocacy;
- **Media coverage** – proportion of mass media to organizational media, proportion of media that is purchased vs. "earned";
- **Resources Generated** – dollar amount of resources contributed (direct, in-kind); and
- **Advocacy and Changes** – changes in policies, practices, environments, ratio of advocacy activities to policy changes, local health department role in changes, etc.

How Data Will Be Used

Although Progress Check is currently being pilot-tested, we expect a variety of outputs and uses for the data. The local staff will have access to standard reports for meetings, reports or grant proposals. The regional and state staff will be able to look across counties and throughout the state to aid with planning and technical assistance efforts. The outcomes identified in Progress Check will allow program staff to generate stories or vignettes of success. Finally, state program planners will be able to track common indicators of change over time.

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What's Next

In its current form, the Progress Check System is a PC-based monitoring system for health promotion programs. The Health Promotion Branch hopes to move toward further automation by migrating the system to a web-based platform. A web-based system has the potential to streamline data entry, data transfer, information verification, and analysis and to expand the usefulness of reports. ■

Influenza Sentinel Surveillance Program

Prepared by A. Torrey, McLean, Surveillance Administrator, and Kelly T. McKee, Jr., MD, MPH, Branch Head; General Communicable Disease Control Branch

In a joint effort with the State Laboratory of Public Health, the General Communicable Disease Control Branch is expanding its participation in the U.S. Influenza Sentinel Physicians Surveillance Network to more effectively monitor the status of influenza activity across North Carolina.

Sentinel physicians, university health centers, and public health agencies recruited from across the state will report "influenza-like illness" (ILI) to the Centers for Disease Control and Prevention (CDC) each week and collect representative samples for virus strain identification. The data obtained will provide important epidemiologic data to the state health department and will support CDC influenza surveillance throughout the U.S. Moreover, this effort will provide rapid recognition of new influenza strains with pandemic potential. This will be the third consecutive year of the Division of Public Health's participation in this important program.

The 41 participants in this surveillance program, which runs from September 30, 2001 to May 18, 2002, will report the following information weekly to CDC:

- The total number of patient visits each week
- The number of patient visits for ILI each week by the following four age groups:
 - 0-4 year-olds (preschool)
 - 5-24 year-olds (school age through college)
 - 25-64 year-olds (adults)
 - 65+ year-olds (older adults)

Summary reports will also be posted on the web at www.schs.state.nc.us/epi/gcdc/flu.html.

Last year, 16 physician providers participated in the program, reporting ILI in 14 counties. This year, we have expanded the surveillance system to 30 providers in 25 counties in order to achieve a broader geographic representation than previously was the case. Additionally, a similar university

student health influenza surveillance program has been incorporated into the program. This student surveillance, conducted jointly by the GCDC Branch and the State Laboratory of Public Health, raises the total number of participants to 41. A variety of practice types (pediatrics, family practice, internal medicine, etc.) and sites (local health departments, private practices, student health clinics, etc.) now are represented.

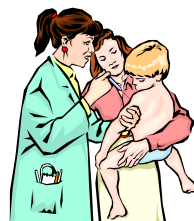
Physicians/health personnel will report ILI in some of the most heavily-populated areas of the state: Ashe, Buncombe, Cabarrus, Caldwell, Catawba, Craven, Cumberland, Davidson, Durham, Edgecombe, Forsyth, Granville, Guilford, Henderson, Iredell, Mecklenburg, Macon, Mitchell, Montgomery, New Hanover, Onslow, Pitt, Rowan, Wake, and Wilkes counties. The 11 university student health programs participating are Appalachian State University, Duke University, East Carolina University, N.C. A&T State University, N.C. Central University, N.C. State University, UNC-Asheville, UNC-Chapel Hill, UNC-Charlotte, UNC-Wilmington, and Wake Forest University. These student health providers are particularly valuable in that they enable us to monitor influenza in a very diverse student population that includes many students from other states and countries.

This expansion of the influenza surveillance program should enable public health personnel to monitor the spread of influenza in the state more effectively than in previous years. In addition to helping detect new strains with pandemic potential, timely identification of circulating influenza virus strains also can help determine whether antiviral drugs might be useful in preventing or treating ILI. ■

N.C. Leads in Immunization

*From a news article written by Lynn Bonner
N&O Staff Writer, and published Friday, August 3, 2001 in
The News and Observer*

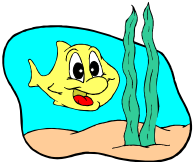
North Carolina had the best childhood immunization rates in the nation in 2000, moving up in one year to first place from 8th in the nation, according to a Centers for Disease Control and Prevention survey released Aug. 2.



The state ranks first in the nation in three categories for children between 19 and 35 months old, according to the CDC's National Immunization Survey. Nearly 88 percent of children received a common series of shots to protect them against diseases such as diphtheria, polio, measles and mumps. Minnesota had the second-highest rate; Massachusetts, excluding Boston, was third. ■

Blue-Green Algae: A Growing Problem

Thomas Morris, MD, MPH, Medical Epidemiologist
Occupational and Environmental Branch



In the mid-1990s, North Carolina was worried about a type of algae found in estuaries—*Pfiesteria*—which was associated with fish kills and possible human health problems. University researchers, the N.C. Division of Water Quality and the Division of Public Health undertook intensive study and surveillance to ensure the protection of public health. Fortunately, *Pfiesteria* has not proved to be a serious and recurring public health problem.

However, the freshwater reservoirs and streams of North Carolina are now increasingly beset by more visible aquatic residents—freshwater algae such as green algae, diatoms and blue-green algae. In the last two years, North Carolina residents have been voicing concerns about these algal blooms in their lakes and in their drinking water, because a bloom makes the water look bad, taste bad, or smell awful. People are now asking, “Is that algae harmful to my health?”

While they may be unpleasant, freshwater green algae and diatoms are harmless to people and animals. However, some blue-green algae, also known as cyanobacteria, have the potential to produce compounds that can be poisonous to mammals including pets, livestock and humans. Blue-green algae are common to aquatic ecosystems around the world, including North Carolina. In the United States, no serious illnesses or deaths have been linked to ingestion of toxins from blue-green algae. Countries such as Australia that have experienced algae-related problems and that are highly dependent on surface water for drinking water and agricultural use have extensive programs that study algae in order to keep their water usable and safe.

Algae are a natural part of the environment. Blooms of algae—when these microscopic organisms multiply quickly and form a thick mat or turn the water thick—happen periodically. There are three important components that facilitate algae blooms: lots of sunlight, plenty of nutrients, and very slow-moving or stagnant water. Current land management practices such as use of chemical fertilizers, waste disposal procedures, and the pooling of water by damming increase the likelihood of algae blooms, especially when there is little or no rainfall.

Several kinds of blue-green algae can produce one or more

types of systemic toxins: hepatotoxins (poisonous to the liver), neurotoxins (those that affect the nervous system), and cytotoxins (poisonous to all cells). The hepatotoxins, particularly a group called microcystins, are the most well-known and the only type for which the World Health Organization (WHO) has a tolerance limit. These toxins are not considered dangerous unless they are ingested, usually by drinking untreated tainted water. Water treatment engineers who produce our drinking water are aware of the problems and products of algae in reservoirs and strive to keep our water safe through filtration and other treatment processes.

It is important to note that a funny smell or taste due to algal components in the water is not linked to the presence or absence of cyanotoxins in that water. Only laboratory tests can detect toxins. While our treated drinking water is carefully monitored to ensure that it is safe, people should never drink untreated water, whether or not algae are present.

The Harmful Algal Blooms Program of the N.C. Division of Public Health has been gathering information and collaborating with water quality experts about possible adverse human health effects from blue-green algae and other microorganisms. Information and fact sheets about blue-green algae in North Carolina can be found on the HAB website at www.schs.state.nc.us/epi/hab/bluegreen.html. The HAB contact number is (919) 733-3410. ■

Hazardous Substances Emergency Events Surveillance

Prepared by Sherry R. Giles, MPH, Epidemiologist,
Occupational and Environmental Epidemiology Branch

In 1990, the Agency for Toxic Substances and Disease Registry (ATSDR) established an active, state-based surveillance system to describe the public health consequences associated with the release of hazardous substances. North Carolina joined the federally funded Hazardous Substances Emergency Events Surveillance (HSEES) system in 1991.

Through HSEES system, information is collected and analyzed about releases of hazardous substances that need to be cleaned up or neutralized according to federal, state or local law, as well as threatened releases that result in a public health action such as an evacuation. An HSEES event is defined as any release(s) or threatened release(s) of at least one hazardous substance. A substance is considered hazardous if it might reasonably be expected to cause

adverse human health effects. Releases consisting solely of petroleum products are excluded from this system.

The objectives of the HSEES program are to reduce morbidity and mortality of employees, responders, and the general public as a result of hazardous substances releases; identify the risk factors associated with morbidity and mortality from the releases; and identify or develop prevention strategies that may reduce or prevent future morbidity and mortality associated with hazardous substances emergency events.

Hazardous substances emergency events are reported to the N.C. HSEES staff by several sources. The primary notification sources are the Division of Emergency Management - Department of Crime Control and Public Safety; the National Response Center - U.S. Coast Guard; the Hazardous Materials Information System - U.S. Department of Transportation; and the media. Additional information is collected through telephone interviews with emergency responders, including local emergency management coordinators, firefighters, hazardous materials team responders, and environmental affairs representatives in private industry.

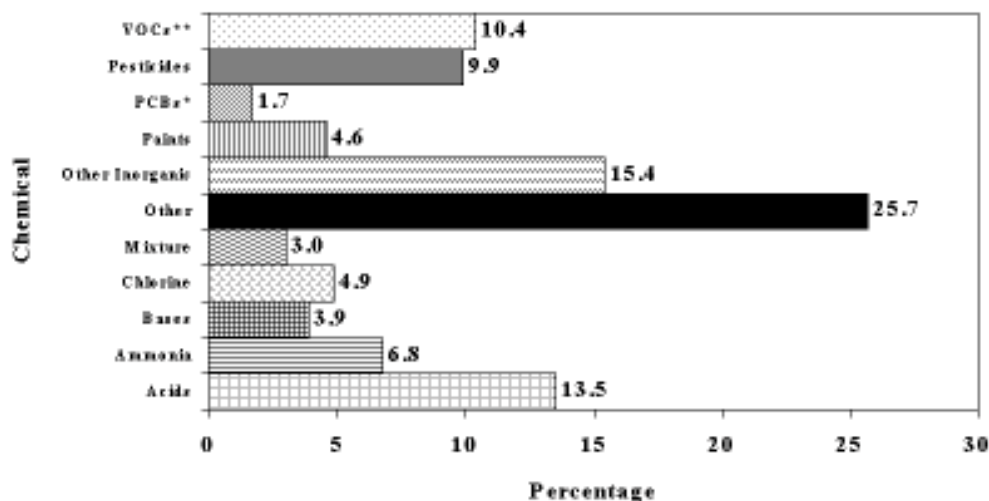
From 1993 through 1998, a total of 1,238 events were investigated and entered into the database by the N.C. HSEES staff. Of these events, 893 (72.1%) occurred at fixed facilities and 345 (27.9%) were transportation events. Types of chemicals released are shown in the table below.

Approximately 22% of reported events required official evacuation orders, with a total of more than 21,000 people evacuated. Only 2% of reported events had in-place sheltering orders requiring people to stay indoors, with windows and doors closed, to avoid exposure. Six hundred ninety people were decontaminated because of exposure to chemicals. Nearly 80% of the persons decontaminated were responders, 19% were employees and the remaining 1% were members of the general public. There were 638 victims in the 1,238 events. (Victims are defined as individuals who experience injuries or report symptoms or go to a health care facility within 24 hours of the event.) The most frequently reported injuries were respiratory irritation, gastrointestinal problems, headache, dizziness or central nervous system symptoms, eye irritation and trauma.

Prevention outreach is an important part of the HSEES program. Fact sheets have been developed for chemicals that cause the most injuries to people. The fact sheets are distributed to industries that use the chemical, local emergency management coordinators, fire marshals, and companies in the HSEES database that have released the chemical. Presentations are made to local emergency planning committees (LEPCs) to help them develop their own prevention strategies.

More information about the HSEES program, fact sheets and other program publications are available on the web at www.schs.state.nc.us/epi/oii/hsees.html. ■

Percentage of Chemicals Released, by Chemical Category NC HSEES, 1993-1998



*PCBs = polychlorinated biphenyls

**VOCs = volatile organic compounds

Health Hazard Control Unit Works to Reduce Lead Poisoning In North Carolina

Prepared by Lucinda Sullivan, Industrial Hygiene Consultant, Health Hazards Control Unit



Lead was banned from house paint in 1978. However, the effects of lead-based paint are still a public health concern today and affect hundreds of children in North Carolina. Lead-based paint poisoning remains a preventable

health threat for children.

Deteriorating paint exposes youngsters to lead-laden dust and paint chips. Because young children frequently put their fingers and other objects in their mouths, they are easily poisoned from ingestion of chips or dust or soil contaminated with lead. In addition to the hazards of deteriorating paint, improper house renovation can also result in lead poisoning in children.

Blood levels of 20 micrograms per deciliter of blood are considered elevated and a high health concern, but health risks can begin at 10 micrograms per deciliter. Lead affects the nervous system and can result in learning and behavioral problems, lowered IQ and anemia. In extreme exposures, damage to the kidneys can occur, as well as seizures, coma and even death.

Many state and federal agencies have been working to reduce the numbers of children poisoned by lead. These include the Centers for Disease Control and Prevention (CDC), U.S. Environmental Protection Agency (EPA), U.S. Department of Housing and Urban Development (HUD), N.C. Division of Environmental Health, N.C. Department of Commerce, local health departments and community development programs, and the Health Hazards Control Unit (HHCU) within the N.C. Division of Public Health. While each of these agencies approach lead hazard reduction in different ways, the overall goal is to reduce the number of children exposed to lead.

The HHCU implemented the Lead-Based Paint Hazard Management Program (LHMP) in August of 1998. The LHMP requires certification for individuals conducting abatement (lead hazard reduction or removal) activities, inspections and risk assessments. It also requires permits for abatement activities.

Having trained personnel perform abatement activities helps ensure the abatement is conducted properly, that further contamination of the house is avoided, and that exposure of

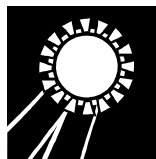
workers to the lead is reduced. Clearance is required on these abatement projects, and the clearance activities are conducted by certified inspectors or risk assessors.

HHCU industrial hygiene consultants visit abatement projects where new contractors are starting abatement activities. The consultants offer on-site assistance to ensure the contractors are in compliance with state and federal regulations. HHCU's industrial hygiene inspectors inspect at least 10 percent of the permitted abatement projects. Contractors' failure to comply with the regulations can result in civil penalties.

As of September of 2001, HHCU has permitted 672 abatement projects and has certified hundreds of individuals. Educational outreach efforts continue as HHCU works with local housing authorities, contractors, realtors and other professional organizations.

The bottom line is that lead-based paint is still a significant health risk to children, and lead-based paint poisoning is preventable. With that in mind, HHCU will continue to work, along with other agencies, to make North Carolina a safer and healthier place for children. ■

Dr. MacCormack Recognized



J.N. "Newt" MacCormack, MD, MPH was one of DHHS seven employees nominated by the Department for this year's Governor's Awards for Excellence, the highest honor a state employee may receive. Dr. MacCormack is also nationally recognized as a leading public health physician.

Dr. MacCormack retired this summer as head of the General Communicable Disease Control Branch after 36 years of dedicated service in public health on both the local and state levels. He was cited for his unstinting fight against communicable disease in North Carolina and his tireless efforts to educate the public, the medical community, and public health professionals about identifying, preventing, controlling and treating existing and emerging communicable diseases. ■

Dr. Maillard Appointed to Committee

Jean-Marie Maillard, MD, MSc has been appointed to the Residency Advisory Committee of the Preventive Medicine Residency Program. Dr. Maillard serves as Head of Communicable Disease Surveillance in the General Communicable Disease Control Branch of Epidemiology. ■

**Reported Communicable Diseases, North Carolina
January-September 2001 (by date of report)***

Disease	Year-to-Date (1 st -3 rd Quarters)			3 rd Quarter 2001	Comments/Notes
	2001	2000	Mean (96-00)		
Campylobacter	365	404	406	168	
Chlamydia, laboratory reports	16657	16860	14783	5382	
Cryptosporidiosis	23	21	-	8	Note 1 & 2
Dengue	1	2	1	1	
E. coli O157:H7	36	70	51	11	Note 3
Ehrlichiosis, monocytic	9	6	-	8	Note 1 & 2
Encephalitis, California group	2	6	-	2	Note 1 & 4
Foodborne, other	7	7	30	3	
Gonorrhea	12920	13788	13755	4199	
Hemophilus influenzae	41	20	22	12	
Hepatitis A	157	116	118	93	
Hepatitis B, acute	161	182	201	52	
Hepatitis B, chronic	466	454	507	166	
Hepatitis C, acute	16	13	-	7	Note 1 & 4
HIV/AIDS	1224	1111	1229	396	Note 5
HUS/TTP	1	1	-	1	Note 1 & 2
Legionellosis	7	13	11	2	
Listeriosis	2	-	-	2	Note 8
Lyme disease	33	41	47	26	
Malaria	12	27	21	10	
Meningococcal disease	59	32	51	9	
Meningitis, pneumococcal	38	42	42	5	
Mumps	4	5	10	3	
Rabies, animal	459	448	508	163	
Rocky Mountain Spotted Fever	121	57	88	98	
Salmonellosis	980	829	919	519	
Shigellosis	283	162	247	93	
Strepto. A, invasive	124	68	-	34	Note 1 & 2
Syphilis, total	724	876	1194	235	Note 6
Toxic Shock Syndrome	4	5	2	1	
Tuberculosis	251	271	316	78	
Typhoid Fever	2	2	2	1	
Vibrio vulnificus	4	2	-	3	Note 1 & 7
Vibrio, other	8	6	-	4	Note 1 & 2
Vanco. Resistant Enterococci	446	321	-	114	Note 1 & 2
Whooping cough	56	77	85	16	

* Preliminary data, as of 10/9/2001. Quarters are defined as 13-week periods.

Notes: 1. - =Not reportable in this entire time period; 2. Became reportable 8/1/98; 3. Became reportable 10/1/94; 4. Became reportable as such 8/1/98; previously within other category ("Encephalitis"; and "Hepatitis, non A-non B"); 5. Earliest report with HIV infection or AIDS diagnosis; 6. Primary, secondary and early latent syphilis; 7. Became reportable 7/1/97; 8. Became reportable 6/1/2001.

North Carolina Awarded Biomonitoring Grant

Prepared by Roger McDaniel, Ph.D., Principal Investigator

North Carolina's State Laboratory of Public Health and the Occupational and Environmental Epidemiology Branch were recently awarded a grant from the Centers for Disease Control and Prevention (CDC) to develop a Biomonitoring Plan. This grant offers the opportunity to study environmental problems relevant to North Carolina and to determine the feasibility of using biomonitoring to better understand, and possibly better respond to, such exposures.

Historically, exposure to environmental contaminants has been estimated using external measurements from the analysis of soil, water or air. Various models were used to estimate the potential for human exposure and to calculate an acceptable level of contaminant in a particular environmental matrix. In contrast, biomonitoring is the direct analysis of human bodily fluids such as blood, urine or tissue specimens for environmental contaminants. By directly analyzing these biological specimens, exposure levels can be more accurately quantified. The best-known and most successful example of biomonitoring is childhood blood lead screening. While there are many other environmental contaminants that are known to cause health problems, no others are being currently monitored in North Carolina.

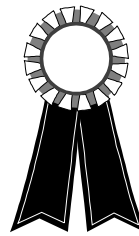
This project will be a collaborative effort between the State Laboratory of Public Health, the Occupational and Environmental Health Branch, and the local public health community. The goals of this project are to

1. Conduct a systematic survey of environmental issues that affect public health in North Carolina.
2. Identify environmental issues and populations that may be impacted by a biomonitoring program.
3. Collaborate with partners to prioritize potential biomonitoring projects that will most significantly impact public health in North Carolina.
4. Design a study that will contribute to our understanding of actual exposures to environmental contaminants and the relationship to disease.
5. Propose a project for implementation that will have the potential for improving the quality of life for North Carolinians.

The planning phase will include definition of the problem, identification of affected populations, determination of the technical feasibility of the project, and identification of the possible public health benefits resulting from implementation. At the conclusion of the two-year planning phase, a proposal will be submitted to the CDC to fund implementation. Approximately five grants of \$1,000,000 per year over a five-year period will be awarded for implementation of the selected biomonitoring projects. ■

Employee Recognition: Kathy Hostettler Employee of the Quarter

Prepared by Patsy West



Mrs. Kathy Hostettler has received the Epidemiology Section's Employee Recognition Award for the second quarter of 2001. Ms. Hostettler was nominated in the category of Teamwork.

Mrs. Hostettler is a career state employee with 29 years of service. She is the Epidemiology Section's local area network manager and provides ongoing LAN management to the Section. She provides technical consultation and advice to staff and management regarding hardware and software applications, purchases, and telecommunications issues such as linking computers and servers to and from remote locations such as home bases and field offices. She is the Section's computer team leader, organizing and chairing the Section Information Technology Management group that recommends and evaluates technology plans for support of programmatic and business functions of the agency that maximize overall benefits to the agency and state government as a whole. Ms. Hostettler works consistently and continuously to ensure that all of the Section's information technology needs are met. She stays abreast of technological changes and anticipates potential problems to minimize negative impact on all parts of service delivery.

In addition to receiving the Epidemiology Section's Employee Recognition Award for Teamwork, Mrs. Hostettler will be presented with a gift certificate from the Section Management Team. ■

**Summary: Management of Occupational Exposures to
Hepatitis B, Hepatitis C, and HIV**
N.C. Division of Public Health, Epidemiology Section
July 18, 2001

The Centers for Disease Control and Prevention (CDC) recently issued updated guidelines for the management of occupational exposures to bloodborne pathogens (MMWR 50/RR-11, 29 June 2001 *Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis*). These guidelines represent a synthesis of recommendations published by CDC and the Occupational Safety and Health Administration (OSHA) over the past several years in a variety of forums. They reflect the current state of knowledge regarding risks of contracting Hepatitis B, Hepatitis C and HIV following percutaneous or mucous membrane exposure to blood and body fluids. Additionally, these guidelines summarize current information on, and recommendations for, post-exposure prophylaxis (PEP) for each of these pathogens. Below is a summary of the changes from previous recommendations. Note that this summary is NOT intended to substitute for careful review and analysis of the complete CDC document by responsible individuals at the local level. The complete CDC document can be found at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5011a1.htm>.

Each local health department should ensure that a plan is in place for management of occupational exposures to blood and body fluids. Emphasis must be placed on prompt assessment of incidents by individuals experienced in the management of HIV, familiar with anti-retroviral therapy, and knowledgeable about drug resistance and its impact on choice of post-exposure prophylaxis regimens. It is incumbent on each health department to identify local and/or regional resources capable of responding knowledgeably and in a timely fashion. Telephone consultation on these matters is available through the Statewide Program for Infection Control and Epidemiology (SPICE) at 919-966-3242; however, this should not substitute for local response capability.

UPDATES NEW TO 29 JUNE 01 PHS GUIDELINES

HIV:

- Last guidelines 1998 (15 May 98; MMWR 47/RR-7).
- Better definition of “less severe” and “more severe” exposure types driving 2 vs. 3 drug PEP regimens.
- New anti-retroviral agents approved by FDA; modified PEP recommendations.
- More info about the use and safety of PEP.
- Potential drugs for post-exposure prophylaxis should not be used if the source patient demonstrates clinical or virological failure.
- For all drugs, much more info on tolerability, toxicities, advantages/disadvantages.

OLD: *Basic:* 4 weeks (28 days) AZT (600 mg qd-divided doses) PLUS lamivudine (3TC) (150 mg bid).
Expanded: Basic regimen PLUS indinavir (800 mg tid) OR nelfinavir (750 mg tid).

NEW: **Basic:** 4 weeks (28 days) AZT (600 mg qd-divided doses) PLUS lamivudine (3TC) (150 mg bid) OR lamivudine (150 mg bid) PLUS stavudine (d4T)(40 mg bid) OR didanosine (ddI)(400 mg qd) PLUS stavudine (40 mg bid).
Expanded: Basic regimen PLUS indinavir (800 mg tid) OR Nelfinavir (750 mg tid or 1250 mg bid) OR efavirenz (600 mg qd) OR abacavir (300 mg bid) OR ritonavir OR saquinavir OR amprenavir OR delavirdine OR lopinavir/ritonavir. **Recommended NOT TO USE nevirapine.**

HBV:

- Last comprehensive CDC guidelines 1997 (26 December 1997; MMWR 46/RR-18); included as part of supplement on vaccination of Health Care Professionals (HCPs).

OLD: *No significant differences in management of PEP between OLD and NEW.*

NEW: Consolidates and packages information previously provided into single document. More elaboration of factors to consider in assessing need for PEP and evaluation of exposure source. Emphasis on follow-up and counseling.

(continued on back)

HCV:

- Last guidelines 1998 (MMWR 1998 47/RR-17).
- At the present time, the State Laboratory for Public Health is ***not*** resourced to support Hepatitis C diagnostic testing; individual arrangements must be made by local health departments for this activity.
- Recently, the General Communicable Disease Control Branch in Raleigh contracted with the Office of Continuing Education at the University of North Carolina-Chapel Hill School of Medicine to provide a series of CME presentations across the state on Hepatitis C Awareness. The schedule for these presentations is under development and will be distributed soon.

OLD: *Post-exposure follow-up of health-care, emergency medical, and public safety workers for Hepatitis C virus (HCV) infection.*

For the source, baseline testing for anti-HCV.

For the person exposed to an HCV-positive source, baseline and follow-up testing including baseline testing for anti-HCV and ALT activity; and follow-up testing for anti-HCV (e.g., at 4-6 months) and ALT activity. (If earlier diagnosis of HCV infection is desired, testing for HCV RNA may be performed at 4-6 weeks).

Confirmation by supplemental anti-HCV testing of all anti-HCV results reported as positive by enzyme immunoassay.

NEW: Post-exposure follow-up for HCV.

For the source, perform testing for anti-HCV.

For the person exposed to an HCV-infected source: perform baseline testing for anti-HCV and ALT activity; and perform follow-up testing (e.g., at 4-6 months) for anti-HCV and ALT activity (if earlier diagnosis of HCV is desired, testing for HCV RNA may be performed at 4-6 weeks).

Confirm all anti-HCV results reported positive by enzyme immunoassay using supplemental anti-HCV testing (e.g., recombinant immunoblot assay [RIBA]).

Health care personnel who provide care to persons exposed to HCV in the occupational setting should be knowledgeable regarding risks for HCV infection and appropriate counseling, testing and medical follow-up.

IG and antiviral agents not recommended.

No guidelines exist for administration of therapy during the acute phase of HCV infection. When HCV identified, prompt referral is appropriate (because antiviral therapy might be beneficial when started early in course of HCV infection).

BOTH HBV and HCV:

No modifications to an exposed person's patient-care responsibilities are necessary to prevent transmission to patients based solely on exposure to HBV- or HCV-positive blood. If an exposed person becomes acutely infected with HBV, the person should be evaluated according to published recommendations. No recommendations exist regarding restriction of activities of HCPs with HCV infection. All chronically-infected HCPs (with HBV or HCV) should follow recommended infection control practices (published).

For additional information contact:

***General Communicable Disease Control
Epidemiology Section***

N.C. Division of Public Health

1902 Mail Service Center / 225 N. McDowell St.

Raleigh, NC 27699-1902

Phone: (919) 733-3419 / Fax: (919) 733-0490



State of North Carolina • Michael F. Easley, Governor
Department of Health and Human Services • Division of Public Health
Epidemiology Section • www.schs.state.nc.us/epi/

Dr. J. Steven Cline, Epidemiology Section Chief
Managing Editor, J. Steven Cline
Layout and Typesetting, Angela Green

Epidemiology Section Office (919) 733-3421
General Communicable Disease Control Branch (919) 733-3419
HIV/STD Prevention and Care Branch (919) 733-7301
Occupational and Environmental Epidemiology Branch (919) 733-3410
Rabies Emergency Number-Nights, Weekends, Holidays (919) 733-3419
EMERGENCY NUMBER-Nights, Weekends, Holidays (919) 733-3419

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